

CLAIMS:

1. A vertical axis wind turbine, comprising two counter-rotating rotors mounted on first and second spaced apart vertical axes, each said rotor having a plurality of rotor blades extending generally inwardly from an outer circumference, said vertical axes being mounted on a support structure which is in turn rotatable on a third vertical axis on a platform, said third axis being spaced from a point midway between said first and second axes in a direction at 90 degrees to and forward from a line between said first and second axes, said vertical axis wind turbine further comprising a guide vane mounted on said support structure, having a vertex forward of said third vertical axis in said direction at 90 degrees from a line between said first and second axes, said guide vane having left and right symmetrical vane portions extending towards said rotors so as to direct airflow from wind primarily towards portions of said rotors outboard of said first and second axes, said guide vane also tending to keep said vertical axis wind turbine oriented with said guide vane's axis of symmetry pointing forwardly into the wind.

2. A vertical axis wind turbine as in claim 1, wherein said guide vane substantially shields portions of said rotors inboard of said first and second vertical axes.

3. A vertical axis wind turbine as in claim 1, further comprising movable deflector flaps pivotally mounted adjacent opposite ends of said left and right vane portions for movement about a generally vertical axis, forwardly from a position where they are generally coplanar with said vane portions, for deflecting air at least partially away from said rotors.

4. A vertical axis wind turbine as in claim 2, further comprising movable deflector flaps pivotally mounted adjacent opposite ends of said left and right vane portions for movement about a generally vertical axis, forwardly from a position where they are generally coplanar with said vane portions, for deflecting air at least partially away from said rotors.

5. A vertical axis wind turbine as in claim 1, wherein said rotor blades are curved in airfoil-like shapes relative to said airflow for enhanced efficiency relative to that of a straight blade.
6. A vertical axis wind turbine as in claim 2, wherein said rotor blades are curved in airfoil-like shapes relative to said airflow for enhanced efficiency relative to that of a straight blade.
7. A vertical axis wind turbine as in claim 3, wherein said rotor blades are curved in airfoil-like shapes relative to said airflow for enhanced efficiency relative to that of a straight blade.
8. A vertical axis wind turbine as in claim 4, wherein the ratio between the chord length of the blades and the rotor diameter is approximately one quarter.
9. A vertical axis wind turbine according to claim 1, including a support structure supporting an unrelated structure above the wind turbine.
10. A vertical axis wind turbine according to claim 2, including a support structure supporting an unrelated structure above the wind turbine.
11. A vertical axis wind turbine according to claim 3, including a support structure supporting an unrelated structure above the wind turbine.
12. A vertical axis wind turbine according to claim 4, including a support structure supporting an unrelated structure above the wind turbine.
13. A vertical axis wind turbine according to claim 5, including a support structure supporting an unrelated structure above the wind turbine.
14. A vertical axis wind turbine according to claim 6, including a support structure supporting an unrelated structure above the wind turbine.
15. A vertical axis wind turbine according to claim 7, including a support structure supporting an unrelated structure above the wind turbine.
16. A vertical axis wind turbine according to claim 8, including a support structure supporting an unrelated structure above the wind turbine.